PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY To: SUDHIR G. DESHMUKH E. I. DU PONT DE NEMOURS AND COMPANY NOTIFICATION OF TRANSMITTAL OF LEGAL PATENT RECORDS CENTER THE INTERNATIONAL SEARCH REPORT AND 4417 LANCASTER PIKE THE WRITTEN OPINION OF THE INTERNATIONAL WILMINGTON, DE 19805 SEARCHING AUTHORITY, OR THE DECLARATION (PCT Rule 44.1) *4004* Date of mailing 23 DEC 2004 (day/month/year) Applicant's or agent's file reference FOR FURTHER ACTION See paragraphs 1 and 4 below FA1159PCT International application No. International filing date PCT/US04/14371 (day/month/year) 06 May 2004 (06.05.2004) Applicant E.I. DU PONT DE NEMOURS AND COMPANY The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith. Filing of amendments and statement under Article 19: The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46): The time limit for filing such amendments is normally two months from the date of transmittal of the international search report. Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 740 14 35 For more detailed instructions, see the notes on the accompanying sheet. The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith. With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that: the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices. no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made. Reminders Shortly after the expiration of 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication. The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date. Within 19 months from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later); otherwise, the applicant must, within 20 months from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices. In respect of other designated Offices, the time limit of 30 months (or later) will apply even if no demand is filed within 19 months.

Name and mailing address of the ISA/ US

Mail Stop PCT, Attn: ISA/US Commissioner for Patents

Guide, Volume II, National Chapters and the WIPO Internet site.

P.O. Box 1450 Alexandria, Virginia 22313-1450

Facsimile No. (703)305-3230 Form PCT/ISA/220 (January 2004) Authorized officer

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the PCT Applicant's

Telephone No. (571) 272-2431

Gordon J. Stock, Jr James R. Matthews

(See notes on accompanying sheet)

REY NOTED

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference FA1159PCT	FOR FURTHER see Form PCT/ISA/220 ACTION as well as, where applicable, item 5 below.				
International application No. PCT/US04/14371	International filing date (day/month/year) 06 May 2004 (06.05.2004)	(Earliest) Priority Date (day/month/year) 07 May 2003 (07.05.2003)			
Applicant E.I. DU PONT DE NEMOURS AND COMPANY					
	prepared by this International Searching A transmitted to the International Bureau.	uthority and is transmitted to the applicant			
This international search report consists It is also accompanied	of a total of $\frac{3}{2}$ sheets. I by a copy of each prior art document cited	I in this report.			
	international search was carried out on the banless otherwise indicated under this item.	asis of the international application in the			
furnished to this Autho	search was carried out on the basis of a trans rity (Rule 23.1(b)).				
	de and/or amino acid sequence disclosed in	the international application, see Box No. I.			
2. Certain claims were found 3. Unity of invention is lackin 4. With regard to the title, the text is approved as subm					
	by this Authority to read as follows:	•			
	l, according to Rule 38.2(b), by this Authority	as it appears in Box No. IV. The applicant ch report, submit comments to this Authority.			
as suggested by the	Authority, because the applicant failed to sugg Authority, because this figure better character	est a figure.			

Form PCT/ISA/210 (first sheet) (January 2004)

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/14371

A. CLAS IPC(7) US CL	SIFICATION OF SUBJECT MATTER : G01J 3/42,3/46 : 356/319,402			
	International Patent Classification (IPC) or to both nat	tional classification and IPC		
	DS SEARCHED	•.		
	cumentation searched (classification system followed b	v classification symbols)		
	56/319,402-409,421-425	y Classification symbols)		
Documentation	on searched other than minimum documentation to the	extent that such documents are included in	the fields searched	
Electronic dat EAST	ta base consulted during the international search (name	e of data base and, where practicable, sear	ch terms used)	
C. DOCU	JMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where ap	opropriate, of the relevant passages	Relevant to claim No.	
Y	US 6,522,977 B2 (CORRIGAN et al) 18 February 20 60.	003 (18.02.2003), column 6, lines 24-	8, 9, 15-18	
Α	US 6,519,038 B1 (KRITCHMAN) 11 February 2003	3 (11.02.2003), see entire document.	1-25	
A _.	US 6,052,195 A (MESTHA et al) 18 April 2000 (18	.04.2000), see entire document	1-25	
Y	US 5,929,998 A (KETTLER et al) 27 June 1999 (27.06.1999), column 5, lines 10-35.			
x	US 5,668,633 A (CHEETAM et al) 16 September 19	20-25		
. A	US 4,977,522 A (DAVID) 11 December 1990 (11.12	1-25		
Y	Y US 4,917,495 A (STEENHOEK) 17 April 1990 (17.04.1990), Figure 1, column 5, lines 30-60.			
Y	US 4,853,542 A (MILOSEVIC et al) 01 August 198 column 2, lines 1-20.	9 (01.08.1989), column 1, lines 65-67;	19	
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			· · ·	
Further	documents are listed in the continuation of Box C.	See patent family annex.		
* S _I	pecial categories of cited documents:	"T" later document published after the inter		
	defining the general state of the art which is not considered to be lar relevance	date and not in conflict with the applic principle or theory underlying the inve		
"E" earlier app	plication or patent published on or after the international filing date	"X" document of particular relevance; the considered novel or cannot be consider when the document is taken alone		
	which may throw doubts on priority claim(s) or which is cited to the publication date of another citation or other special reason (as	"Y" document of particular relevance; the considered to involve an inventive step combined with one or more other such	when the document is	
"O" document	referring to an oral disclosure, use, exhibition or other means	being obvious to a person skilled in the		
"P" document published prior to the international filing date but later than the "&" document member of the same patent family priority date claimed				
Date of the actual completion of the international search Date of mailing of the international search report 23 DEC 2004				
03 November 2004 (03:11:2004)				
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents Authorized officer Gordon J. Stock, Jr.			Matthewin	
	numissioner for Patents	Gordon J. Stock, Jr.	111-00 see	
	. Box 1450 xandria, Virginia 22313-1450	Telephone No. (571) 272-2431		
	. (703)305-3230	• • • • • • • • • • • • • • • • • • • •		

Form PCT/ISA/210 (second sheet) (January 2004)

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US04/14371

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	
X	US 4,403,866 A (FALCOFF et al) 13 September 1983 (13.09.1983), column 2, lines 40-67;	1-7, 10-14 8, 9, 15-19	
· Y	column 3, lines 5-45; columns 4-5; column 8, lines 20-35.		
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PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

WIERWATIONAL BEARCHING ACTION I
To: SUDHIR G. DESHMUKH E. I. DU PONT DE NEMOURS AND COMPANY LEGAL PATENT RECORDS CENTER
4417 LANCASTER PIKE
WILMINGTON, DE 19805
•

LEGAL PATENT RECORDS CENTER 4417 LANCASTER PIKE		WRITTEN OPINION OF THE			
WILMINGTON, DE 19805		INTERNATIONAL SEARCHING AUTHORITY			
			(PCT Rule 43bis.1)		
		Date of mailing (day/month/year)	23 DFC 2004		
Applicant's or agent's file reference		FOR FURTHER	ACTION		
FA1159PCT			See paragraph 2 below		
	nternational filing date (d	day/month/year)	Priority date (day/month/year)		
	6 May 2004 (06.05.2004		07 May 2003 (07.05.2003)		
International Patent Classification (IPC) or b	both national classification	on and IPC			
IPC(7): G01J 3/42,3/46 and US C1.: 356/31	19,402		·		
Applicant					
E.I. DU PONT DE NEMOURS AND COM	MPANY				
1. This opinion contains indications relating	ng to the following items	:			
Box No. I Basis of the opinion					
Box No. II Priority	Priority				
Box No. III Non-establishn	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability				
Box No. IV Lack of unity of	Lack of unity of invention				
Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement					
Box No. VI Certain documents cited					
Box No. VII Certain defects	No. VII Certain defects in the international application				
Box No. VIII Certain observations on the international application					
2. FURTHER ACTION					
If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.					
If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.					
For further options, see Form PCT/ISA/220.					
3. For further details, see notes to Form PCT/ISA/220.					
Name and mailing address of the ISA/ US Authorized officer					
Mail Stop PCT, Attn: ISA/US Commissioner for Patents	1 Cordon 1 Stook Ir A F1 F1 + A F				
P.O. Box 1450 Alexandria, Virginia 22313-1450		·			
Alexandria, Virginia 22313-1450 Telephone No. (571) 272-2431 Facsimile No. (703)305-3230					

Form PCT/ISA/237 (cover sheet) (January 2004)

International application No	
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PCT/US04/14371

Box N	lo. 1 Basis of this opinion
	regard to the language, this opinion has been established on the basis of the international application in the language in which s filed, unless otherwise indicated under this item.
	This opinion has been established on the basis of a translation from the original language into the following language, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
	regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the sed invention, this opinion has been established on the basis of:
a.	type of material
	a sequence listing
	table(s) related to the sequence listing
b.	format of material
	in written format
	in computer readable form
c.	time of filing/furnishing
	contained in international application as filed.
	filed together with the international application in computer readable form.
	furnished subsequently to this Authority for the purposes of search.
3	In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Addi	tional comments:
,	
,	
Form PC	I/ISA/237(Box No. I) (January 2004)

International application Nogram PCT/US04/14371

Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1.	Statement			
	Novelty (N)	Claims	8,9,15-19,22,24 and 25	YES
	•	Claims	1-7, 10-14, 20, 21, 23	NO
-	Inventive step (IS)	Claims	NONE	YES
		Claims	1-25	NO
	Industrial applicability (IA)	Claims	1-25	YES
		Claims	NONE	NO

2. Citations and explanations:

Please See Continuation Sheet

International application Nox ...

PCT/US04/14371

T		~ · ·				
Box No.	VIII	Certain	observations	on the	international	appucation

The following observations on the clarity of the claims, description, and drawings or on the questions whether the claims are fully supported by the description, are made:

Claim 17 is objected to under PCT Rule 66.2(a)(v) as lacking clarity under PCT Article 6 because claim 17 is indefinite for the following reason(s): improperly dependent upon claim 8 that points to a method rather than a portable computer usable storage medium such as claim 16.

Form PCT/ISA/237 (Box No. VIII) (January 2004)

International application No. PCT/US04/14371

Supi	olem	ental	Box
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In case the space in any of the preceding boxes is not sufficient.

V. 2. Citations and Explanations:

Claims 1-7 and 10-14 lack novelty under PCT Article 33(2) as being anticipated by Falcoff (US 4,403,866).

As for claims 1-7 and 10-14, Falcoff in a color matching method and system discloses the following: measuring reflectances of a target with a spectrophotometer to plot spectral curves and calculating target color values of said target; selecting at least one colorant combination from stored values of standards; determining concentrations of colorants and balancing with non-colorants such as solvents and binder solutions; selecting optimized combination from an equation such as a difference between L*, a*, and b* values; comparing composition when applied to target coating; displaying values on a screen suggested by a computer and color stylist; mixing is involved to produce desired optimized formulation; applying optimized formulation through spraying onto a substrate such as a primed steel panel; substrate is a truck or auto body and coating composition is automotive paint; at least one colorant is used in the formulation; a matched coating composition is produced (column 2, lines 40-67; column 3, lines 5-45; columns 4-5; column 8, lines 20-35); the device comprises a programmable computer thereby having computer code with spectrophotometer; mixer; dispenser (Fig. 1: 1, 19, 13 with FILL).

Claims 20, 21, and 23 lack novelty under PCT Article 33(2) as being anticipated by Cheetam (5,668,633).

As for claims 20, 21, 23, Cheetam in a method and system for formulating a color match discloses: measuring the spectrum, reflectances, of a target standard; calculating target color values of said target; selecting at least one colorant combination; determining concentrations of colorants; balancing combinations to allow for presence of noncolorant such as resins or grades of plastics; selecting optimal combination to be mixed and matched and formed with resin form; mixing of coating and resins to produced matched resin; processing said resin through molding (Figures 2-3; columns 3-6).

Claims 8, 9, 15, and 18 lack an inventive step under PCT Article 33(3) as being obvious over Falcoff (US 4,403,866) in view of Corrigan (US 6,522,977) and Kettler (US 5,929,998) and Steenhoek (US 4,917,495).

As for claims 8, 9, 15, and 18 Falcoff discloses everything as above (see claims 1 and 11). He is silent about using multiple angles with his spectrophotometer nor the transportability of the device. However, Corrigan, Kettler, and Steenhoek all teach that color measurements are made at multiple angles with aspecular angles and that their systems are portable (Corrigan: column 6, lines 24-60; Kettler: column 5, lines 10-35; Steenhoek: Figure 1 and column 5, lines 30-60). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have the method and device provide multiple aspecular angles of measurement in order to derive color measurements from reflectance values, for colorimetric values are obtained by a plurality of angles of measurement. In addition, it would be obvious to one of ordinary skill in the art at the time the invention was made to have the system be portable in order to facilitate quick measurements on a variety of test surfaces such as horizontal and vertical surfaces on automobile bodies.

Claims 16-17 lack an inventive step under PCT Article 33(3) as being obvious over Falcoff (US 4,403,866) in view of Corrigan (US 6,522,977).

International application No. PCT/US04/14371

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

As for claims 16-17, Falcoff teaches claim 1 (see above) and a programmed computer (column 5, lines 65-67). He is silent concerning portable computer storage medium such as CD-ROM. However, Corrigan in a color matching device teaches the use of several portable storage media such as CD-ROM, DVD ROM magnetic tape (col. 6, lines 55-60). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have the system comprise portable computer usable storage medium such as CD-ROM in order to temporarily or permanently record data in order for it to be read later. Claim 17 has been interpreted as depending from claim 16.

Claim 19 lack an inventive step under PCT Article 33(3) as being obvious over Falcoff (US 4,403,866) in view of Milosevic (US 4,853,542).

As for claim 19, Falcoff discloses everything as above (see claim 11). He is silent concerning a spherical spectrophotometer. However, Milosevic teaches in a spectrophotometer having a spherical configuration to increase signal to noise (column 1, lines 65-67; column 2, lines 1-20). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have the spectrophotometer be spherical in order to increase the signal to noise ratio of the system.

Claims 22, 24, 25 lack an inventive step under PCT Article 33(3) as being obvious over Cheetam (5,668,633).

As for claims 22, 24, 25 Cheetam discloses everything as above (see claim 20). He is silent concerning the particular type of molding process (column 5, lines 38-40), the particular substrate and particular matched substrate but he discloses that the substrates may be plastic, paper, or cloth (column 2, lines 55-60). Extrusion, thermoforming, injection molding, blow and rotational molding are well known processes of manipulating resins into forms. Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have the resin processed through extrusion, thermoforming, or type of molding in order to form it into a particular shape such as a plaque or chip.

Claims 1-25 meet the criteria set out in PCT Article 33(4), and thus has industrial applicability because the subject matter claimed can be made or used in industry.

NOTESTO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under Article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article," "Rule" and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions, respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Preliminary Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When? Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

How? Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

- 1. [Where originally there were 48 claims and after amendment of some claims there are 51]: "Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
- 2. [Where originally there were 15 claims and after amendment of all claims there are 11]: "Claims 1 to 15 replaced by amended claims 1 to 11."
- [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:
 "Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or
 "Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
- 4. [Where various kinds of amendments are made]:
 "Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

"Statement under Article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments and any accompanying statement, under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the time of filing the amendments (and any statement) with the International Bureau, also file with the International Preliminary Examining Authority a copy of such amendments (and of any statement) and, where required, a translation of such amendments for the procedure before that Authority (see Rules 55.3(a) and 62.2, first sentence). For further information, see the Notes to the demand form (PCT/IPEA/401).

Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see the PCT Applicant's Guide, Volume II.